

Biostar M7NCD Ultra Manual

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CHAPTER 1: INTRODUCTION

1.1 M7NCD ULTRA FEATURES

A. Hardware

CPU

- Provides Socket-462.
- Supports the AMD Athlon XP/Duron/Sempron processor up to 3200+.
- Front Side Bus at 266/333/400 MHz.

Chipset

- North Bridge: nFORCE2 SPP.
- South Bridge: MCP, supports High Speed 800Mb/s Hyper-Transport interface.

Main Memory

- Supports up to 3 DDR devices.
- Supports 266/333/400MHz (without ECC) DDR devices.
- High performance 128 bit DDR400 Twin Bank Memory Architecture.
- Maximum memory size is 3GB.

Super I/O

- Chip: Winbond W83627HF.

Slots

- 5 32-bit PCI bus master slots.
- 1 AGP:
 - AGP3.0 8X interface at 533Mb/s.
 - Supports AGP 4X/ 8X.

On Board IDE

- Supports 4 IDE disk drives
- Supports PIO Mode 4, Master Mode and Ultra DMA 33/66/100/133 Bus Master Mode.

Serial ATA Chip

- Chip: VIA VT6420.
- Supports 2 Serial ATA (SATA) ports.
- Supports SATA RAID 0 and RAID 1 function.
- Compliant with SATA 1.0 specification.
- Data transfer rates up to 150 MB/s

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On Board AC'97 Sound Codec

- Chip: ALC650/655.
- Compliant with AC'97 specification.
- AC97 2.2/2.3 interface.
- Supports 6 channels.

On Board Peripherals

a. Rear side

- 1 LAN connector.
- 1 Game port.
- 1 parallel port. (SPP/EPP/ECP mode)
- 2 serial ports. (COM2 is optional for version 8.x.)
- 2 USB2.0 ports.
- Audio ports in horizontal position.
- PS/2 mouse and PS/2 keyboard.

b. Front Side

- 4 USB2.0 ports.
- 1 front audio header.
- 1 floppy port supports 2 FDDs with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.

Dimensions

- ATX Form Factor: 24.4cm (W) x 30.4cm (L), for Version 1.0.
24.4cm (W) x 29.3cm (L), for Version 8.x.

B. BIOS & Software

BIOS

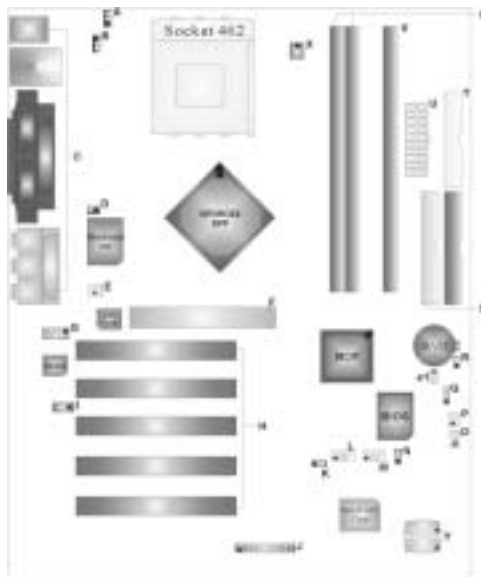
- Award legal Bios.
- APM1.2, ACPI, and USB functions
- Overclock Function
 - Over Voltage
 - Over Clock
 - Over Multiplier

Software

- Supports CPU Savior™, 9th Touch™, FLASHER™, WinFlasher™, and Watchdog™.
- Offers the highest performance for Windows 98 SE, Windows 2000, Windows Me, Windows XP, SCO UNIX, and Linux Red Hat etc.

1.2 PACKAGE CONTENTS

- HDD Cable X1
- FDD Cable X1
- User's Manual X1
- USB Cable X1 (optional)
- Fully Setup Driver CD X1
- Serial ATA Cable X1 (optional)
- S/PDIF Out Cable X1 (optional)
- Rear I/O Panel for ATX Case X1 (optional)

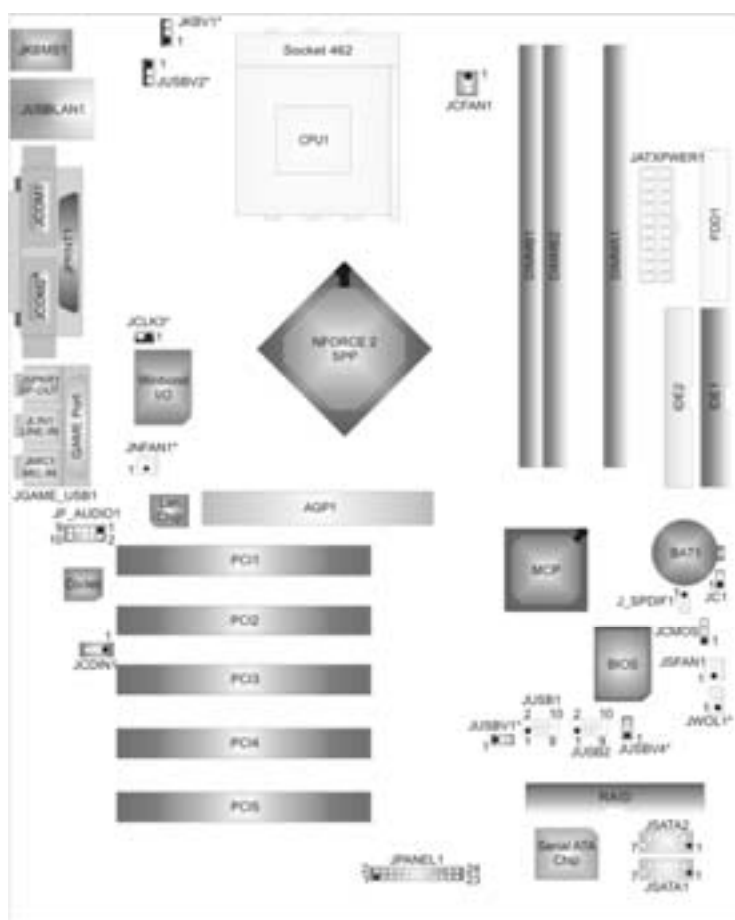
1.4 COMPONENT INDEX (VERSION 8.0)

- | | |
|---|--|
| A. 5V/5VSB Selection for Keyboard and mouse (JKBV1)* | N. Power Source Selection for USB (JUSBV4)* |
| B. Power Source Selection for USB (JUSBV2)* | O. Wake On LAN Header (JWOL1)* |
| C. Back Panel Connector | P. System FAN Header (JSFAN1) |
| D. Frequency Selection (JCLK3)* | Q. Clear CMOS Function (JCMOS) |
| E. North Bridge Fan Header (JNFAN1)* | R. Case Open Connector (JC1) |
| F. Accelerated Graphics Port Slot (AGP1) | S. IDE Connectors (IDE1-2) |
| G. Front Audio Header (JF_AUDIO1) | T. Floppy Disk Connector (FDD1) |
| H. PCI BUS Slots (PCI1-5) | U. ATX Power Connector (JATXPWR1) |
| I. CD-ROM Audio-In Header (JCDIN1) | V. DIMM Modules (DIMMA1) |
| J. Front Panel Connector (JPANEL1) | W. DIMM Modules (DIMMA1-2) |
| K. Power Source Selection for USB (JUSBV1)* | X. CPU FAN Connector (JCFAN1) |
| L. Front USB Header (JUSB1) | Y. Serial ATA Connector (JSATA1-2) |
| M. Front USB Header (JUSB2) | al. S/PDIF Out Connector (J_SPDIF1) |

NOTE: * represents optional for Version 8.0.

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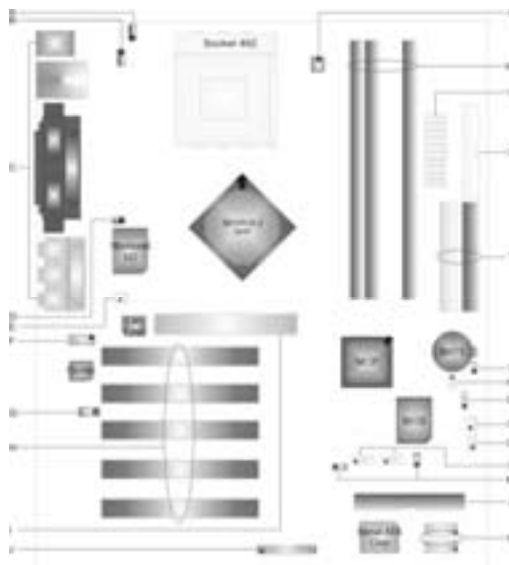
1.5 M7NCD ULTRA LAYOUT (VERSION 8.1)



NOTE:

1. ● Represents the 1st pin.
2. Star mark (*) represents optional for Version 8.1.

1.6 COMPONENT INDEX (VERSION 8.1)



- | | | | |
|-----------|---|-----------|--|
| A. | 5V/5VSB Selection for Keyboard and mouse (JKBV1)* | M. | Power Source Selection for USB (JUSBV1/4)* |
| B. | Power Source Selection for USB (JUSBV2)* | N. | Front USB Header (JUSB1 ~2) |
| C. | Back Panel Connectors | O. | Wake On LAN Header (JWOL1)* |
| D. | Frequency Selection (JCLK3)* | P. | System FAN Header (JSFAN1) |
| E. | North Bridge Fan Header (JNFBAN1)* | Q. | Clear CMOS Function (JCMOS) |
| F. | Front Audio Header (JF_AUDIO1) | R. | S/PDIF Out Connector (J_SPDIF1) |
| G. | CD-ROM Audio-In Header (JCDIN1) | S. | Case Open Connector (JC1) |
| H. | PCI BUS Slots (PCI1-5) | T. | IDE Connectors (IDE1-2) |
| I. | Accelerated Graphics Port Slot (AGP1) | U. | Floppy Disk Connector (FDD1) |
| J. | Front Panel Connector (JPANEL1) | V. | ATX Power Connector (JATXPWR1) |
| K. | Serial ATA Connector (JSATA1-2) | W. | DIMM Modules |
| | Power Source Selection for USB (JUSBV1)* | | |
| L. | RAID Connector * | X. | CPU FAN Connector (JCFAN1) |

NOTE: * represents optional for Version 81.

CHAPTER 2: HARDWARE INSTALLATION

2.1 HOW TO SETUP JUMPER

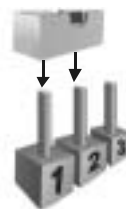
The illustration shows how jumpers are setup. When the Jumper cap is placed on pins, the jumper is "**close**". If no jumper cap is placed on the pins, the jumper is "**open**". The illustration shows a 3-pin jumper whose pin 1 and 2 are "**close**" when jumper cap is placed on these 2 pins.



Jumper close



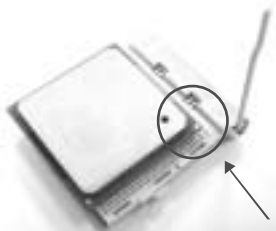
Jumper open



Pin1-2 close

2.2 CPU INSTALLATION

1. Pull the lever sideways away from the socket and then raise the lever up to a 90-degree angle.
2. Look for the white dot/cut edge. The white dot/cut edge should point towards the lever pivot. The CPU will fit only in the correct orientation.
3. Hold the CPU down firmly, and then close the lever.
4. Put the CPU fan on the CPU and buckle it. Connect the CPU fan power cable to the JCFAN1. This completes the installation.



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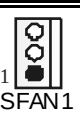
North Bridge Fan Header: JNFAN1 (Optional for Version 8.x)

 JNFAN1	Pin No.	Assignment
	1	Ground
	2	+12V

CPU Fan Header: JCFAN1

 JCFAN1	Pin No.	Assignment
	1	Ground
	2	+12V
	3	Sense

System Fan Header: JSFAN1

 JSFAN1	Pin No.	Assignment
	1	Ground
	2	+12V
	3	Sense

Note:

The JCFAN1 and JSFAN1 support system cooling fan with +12V. It supports 3 pin head connector. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to +12V, and the black wire is Ground and should be connected to GND.

2.3 DDR DIMM MODULES: DIMMB1-2, DIMMA1

Note:

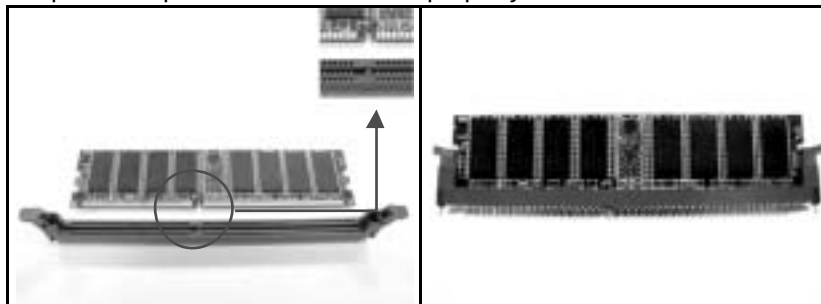
1. For Dual-channel DDR (128-bit) high performance, at least 2 or more DIMM modules must be installed. (It has to be the combination of DIMMA and DIMMB.) With only one DIMM installed, the memory performs only at 64-bit.
2. DRAM Access Time: 2.5V Unbuffered DDR 266/333/400 MHz Type required.
3. DRAM Type: 64MB/ 128MB/ 256MB/ 512MB/ 1GB DIMM Module (184 pin)

Total Memory Size with Unbuffered DIMMs (for reference)

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DIMMB1	64MB/128MB/256MB/512MB/1GB *1	Max is 3GB
DIMMB2	64MB/128MB/256MB/512MB/1GB *1	
DIMMA1	64MB/128MB/256MB/512MB/1GB *1	

Installing DDR Module

1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.
2. Insert the DIMM firmly and vertically into the slot until the retaining chip snap back in place and the DIMM is properly seated.



2.4 JUMPERS, HEADERS, CONNECTORS & SLOTS

Floppy Disk Connector: FDD1

The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

Hard Disk Connectors: IDE1/ IDE2

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA 33/ 66/ 100/ 133 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

Peripheral Component Interconnect Slots: PCI 1-5

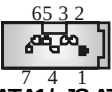
This motherboard is equipped with 5 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

Accelerated Graphics Port Slot: AGP1

Your monitor will attach directly to that video card. This motherboard supports video cards for PCI slots, but it is also equipped with an Accelerated Graphics Port (AGP). An AGP card will take advantage of AGP technology for improved video efficiency and performance, especially with 3D graphics.

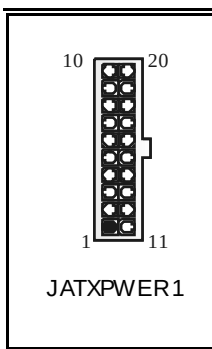
Serial ATA Connector: JSATA1/JSATA2

The motherboard has a PCI to SATA Controller with 2 channels SATA interface. It satisfies the SATA 1.0 spec and can transfer data with 150Mb/s speed.

 JS ATA1/ JS ATA2	Pin 1	Assignment Ground	Pin 2	Assignment TX+
	3	TX-	4	Ground
	5	RX-	6	RX+
	7	Ground		

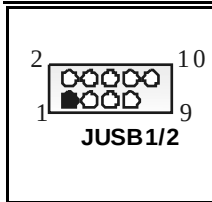
Power Connectors: JATXPWR1

JATXPWR1: This connector allows user to connect 20-pin power connector on the ATX power supply.

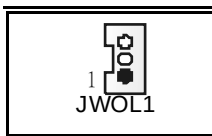
	PIN	Assignment	PIN	Assignment
	1	+3.3V	11	+3.3V
	2	+3.3V	12	-12V
	3	Ground	13	Ground
	4	+5V	14	PS_ON
	5	Ground	15	Ground
	6	+5V	16	Ground
	7	Ground	17	Ground
	8	PW_OK	18	-5V
	9	+5V_SB	19	+5V
	10	+12V	20	+5V

Front USB Header: JUSB1/JUSB2

This header allows user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.

	Pin	Assignment	Pin	Assignment
	1	+5V(fused)	2	+5V(fused)
	3	USBP4-	4	USBP5-
	5	USBP4+	6	USBP5+
	7	Ground	8	Ground
	9	KEY	10	NA

Wake On LAN Header: JWOL1 (Optional for Version 8.x)

	Pin	Assignment
	1	+5V_SB
	2	Ground
	3	Wakeup

Power Source Selection for Keyboard/ Mouse: JKBV1 (Optional for Version 8.x)

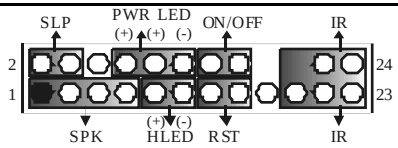
JKBV1	Assignment	Description
 Pin 1-2 close	+5V	+5V for key board and mouse
 Pin 2-3 close	+5V Standby Voltage	PS/2 Mouse and PS/2 Keyboard are powered with +5V standby voltage

Note:

In order to power-on keyboard and mouse function, "JKBV1" jumper cap should be placed on pin 2-3.

Front Panel Connector: JPANEL1

This 24-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button, speaker and IrDA Connection. It allows user to connect the PC case's front panel switch functions.

 Diagram of JPANEL1 connector showing pin assignments and functions. The connector is a 24-pin D-sub connector. The pins are numbered 1 to 24. The functions are: 1: +5V, 2: Sleep Control, 3: NA, 4: Ground, 5: NA, 6: NA, 7: Speaker, 8: Power LED (+), 9: HDD LED (+), 10: Power LED (+), 11: HDD LED (-), 12: Power LED (-), 13: Ground, 14: Power Button, 15: Reset Control, 16: Ground, 17: NA, 18: KEY, 19: NA, 20: KEY, 21: +5V, 22: Ground, 23: IRTX, 24: IRRX.					
JPANEL1					
Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	2	Sleep Control	Sleep Button
3	NA		4	Ground	POWER LED
5	NA		6	NA	
7	Speaker	8	Power LED (+)		
9	HDD LED (+)	Hard Drive LED	10	Power LED (+)	Power-on Button
11	HDD LED (-)		12	Power LED (-)	
13	Ground	Reset Button	14	Power Button	IrDA Connector
15	Reset Control		16	Ground	
17	NA	IrDA Connector	18	KEY	IrDA Connector
19	NA		20	KEY	
21	+5V		22	Ground	
23	IRTX		24	IRRX	

Power Source Selection for USB: JUSBV1/ JUSBV2/ JUSBV4 (Optional for Version 8.x)

JUSBV1/JUSBV2 JUSBV4	Assignment	Description
 Pin 1-2 close	+5V	JUSBV1: 5V for JUSB1 port JUSBV2: 5V for JUSBLAN1 port JUSBV4: 5V for JUSB2 port
 Pin 2-3 close	+5V Standby Voltage	JUSBV1: JUSB1 port powered with standby voltage of 5V JUSBV2: JUSBLAN1 port powered with standby voltage of 5V JUSBV4: JUSB2 port powered with standby voltage of 5V

Note:

1. In order to power-on USB devices function, "JUSBV1/JUSBV2/ JUSBV4" jumper cap should be placed on pin 2-3 respectively.
2. For S3 mode, "JUSBV1/ JUSBV2/ JUSBV4" jumper cap should be placed on pin 2-3 respectively.

Case Open Connector: JCL1

This connector allows system to monitor PC case open status. If the signal has been triggered, it will record to the CMOS and show the message on next boot-up.

 JCL1	Pin	Assignment
	1	Case Open Signal
	2	Ground

CD-ROM Audio-In Header: JC DIN1

This connector allows user to connect the audio source from the variety devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV tuner card etc..

 JC DIN1	Pin	Assignment
	1	Left Channel Input
	2	Ground
	3	Ground
	4	Right Channel Input

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Front Panel Audio Header: JF_AUDIO1

This header allows user to connect the front audio output cable with the PC front panel. It will disable the output on back panel audio connectors.

				JF_AUDIO1	
Pin	Assignment	Pin	Assignment		
1	Mic In/ Center	2	Ground		
3	Mic Power/ Bass	4	Audio Power		
5	Right Line Out/ Speaker Out Right	6	Right Line Out / Speaker Out Right		
7	Reserved	8	Key		
9	Left Line Out/ Speaker Out Left	10	Left Line Out/ Speaker Out Left		

Clear CMOS Header: JCMOS

By placing the jumper cap on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.

JCMOS		Assignment
	Pin 1-2 Close	Normal Operation (default)
	Pin 2-3 Close	Clear CMOS Data

Note:

If your system does not have screen output (No Display) after over-clock, it was caused by the Over Limit of CPU's Front-Side-Bus (FSB). We can restore the CPU Original FSB by clearing the CMOS setting. Once the CMOS goes back to default setting, the System will be able to boot-up again.

✧ Clear the CMOS Setting:

1. Turn off the system and remove AC power cord from the power supply.
2. Place the JCMOS1 jumper cap to Pin 2-3 and wait for 10 seconds.
3. Place the JCMOS1 jumper cap back to Pin 1-2.
4. Connect AC power cord back to power supply and power on the system.

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Digital Audio Connector: J_SPDIF1

This connector allows user to connect the PCI bracket SPDIF output/input header

 1 J_SPDIF1	Pin	Assignment
	1	+5V
	2	SPDIF_OUT
	3	Ground

System Operation Mode: JCLK3 (Optional for Version 8.x)

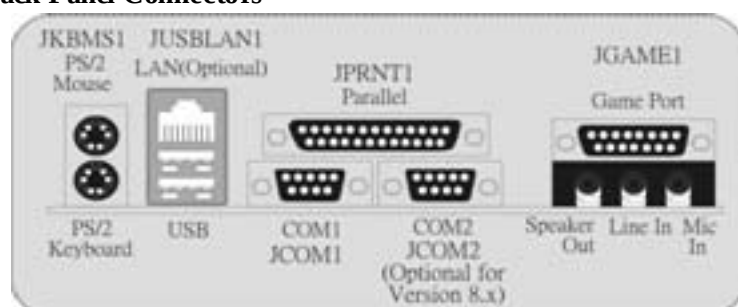
JCLK3	Assignment
 1 Pin 1-2 Close	User Mode (default) (133/ 166/ 200 MHz)
 1 Pin 1-2 Open	Safe mode (100 MHz)

Note:

When overclock function failed and system is unable to boot-up, please follow the instruction below:

1. Turn off the system.
2. Closed the JCLK3 jumper.
3. Turn on the system.
4. Enter CMOS setup menu and load defaults settings.
5. Turn off the system.
6. Open the JCLK3 jumper.
7. Turn on the system.

Back Panel Connectors



2.4 AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	1. CPU overheated 2. System will shut down automatically
One Short beep when system boot-up	No error found during POST
Long beeps every other second	No DRAM detected or install

2.5 TROUBLESHOOTING

Probable	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on key board does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from hard disk drive, can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

CHAPTER 3: WARPSPEEDER™



3.1 INTRODUCTION

[WarpSpeeder™], a new powerful control utility, features three user-friendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.

With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage and CPU fan speed as well as the chipset information. Also, in the About panel, you can get detail descriptions about BIOS model and chipsets. In addition, the frequency status of CPU, memory, AGP and PCI along with the CPU speed are synchronically shown on our main panel.

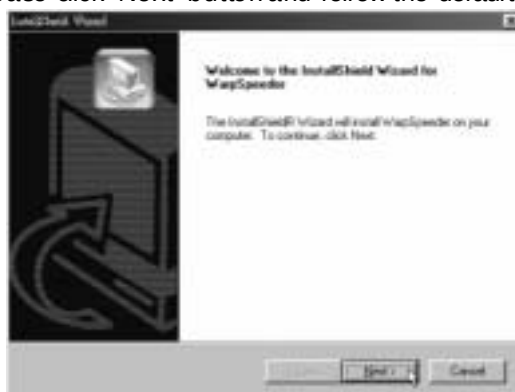
Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fail or hang, [WarpSpeeder™] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

3.2 SYSTEM REQUIREMENT

OS Support: Windows 98 SE, Windows Me, Windows 2000, Windows XP
DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

3.3 INSTALLATION

1. Execute the setup execution file, and then the following dialog will pop up. Please click "Next" button and follow the default procedure to install.



2. When you see the following dialog in setup procedure, it means setup is completed. If the "Launch the WarpSpeeder Tray Utility" checkbox is checked, the Tray Icon utility and [WarpSpeeder™] utility will be automatically and immediately launched after you click "Finish" button.



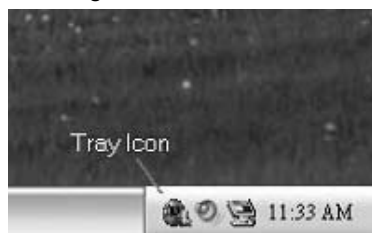
Usage:

The following figures are just only for reference, the screen printed in this user manual will change according to your motherboard on hand.

3.4 [WARPSPEEDER™] INCLUDES 1 TRAY ICON AND 5 PANELS:

1. Tray Icon:

Whenever the Tray Icon utility is launched, it will display a little tray icon on the right side of Windows Taskbar.



This utility is responsible for conveniently invoking [WarpSpeeder™] Utility. You can use the mouse by clicking the left button in order to invoke [WarpSpeeder™] directly from the little tray icon or you can right-click the little tray icon to pop up a popup menu as following figure. The "Launch Utility" item in the popup menu has the same function as mouse left-click on tray icon and "Exit" item will close Tray Icon utility if selected.



2. Main Panel

If you click the tray icon, [WarpSpeeder™] utility will be invoked. Please refer to the following figure; the utility's first window you will see is Main Panel.

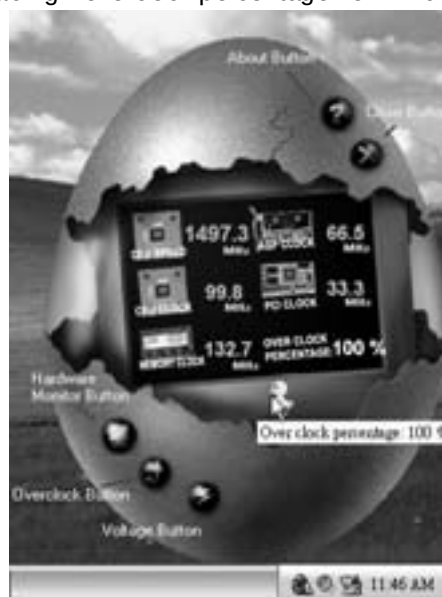
Main Panel contains features as follows:

- Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.
- Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.
- With a user-friendly Status Animation, it can represent 3 overclock percentage stages:

Man walking → overclock percentage from 100% ~ 110 %

Panther running → overclock percentage from 110% ~ 120%

Car racing → overclock percentage from 120% ~ above



3. Voltage Panel

Click the Voltage button in Main Panel, the button will be highlighted and the Voltage Panel will slide out as the following figure.

In this panel, you can decide to increase CPU core voltage and Memory voltage or not. The default setting is "No". If you want to get the best performance of overclocking, we recommend you click the option "Yes".



4. Overclock Panel

Click the Overdock button in Main Panel, the button will be highlighted and the Overclock Panel will slide out to left as the following figure.



Overclock Panel contains the these features:

- a. “-3MHz button”, “-1MHz button”, “+1MHz button”, and “+3MHz button”: provide user the ability to do real-time overclock adjustment.

Warning:

Manually overclock is potentially dangerous, especially when the overclocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let [WarpSpeeder™] automatically gets the best result for you.

- b. “Recovery Dialog button”: Pop up the following dialog. Let user select a restoring way if system need to do a fail-safe reboot.



- d. “Auto-overclock button”: User can click this button and

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[WarpSpeeder™] will set the best and stable performance and frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fail. Then system will do fail-safe reboot by using Watchdog function. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

- e. "Verify button": User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fail, system will do a fail-safe rebooting. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

Note:

Because the testing programs, invoked in Auto-overclock and Verify, include DirectDraw, Direct3D and DirectShow tests, the DirectX 8.1 or newer runtime library is required. And please make sure your display card's color depth is High color (16 bit) or True color (24/32 bit) that is required for Direct3D rendering.

5. Hardware Monitor Panel

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will slide out to left as the following figure.

In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.



6. About Panel

Click the “about” button in Main Panel, the button will be highlighted and the About Panel will slide out to up as the following figure.

In this panel, you can get model name and detail information in hints of all the chipset that are related to overclocking. You can also get the mainboard’s BIOS model and the Version number of [WarpSpeeder™] utility.



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Note:

Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™] utility more robust.

09/06, 2004

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BIOS Setup

Introduction

This manual discussed Award™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS™ installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports AMD® processor input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the Award BIOS™, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

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PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR SDRAM (Double Data Rate Synchronous DRAM) are supported.

Supported CPUs

This AWARD BIOS supports the AMD® CPU.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

!! WARNING !!

The information about BIOS defaults on manual (**Figure 1,2,3,4,5,6,7,8,9**) is just for reference, please refer to the BIOS installed on board, for update information.

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Input/ Output features.

Power Management Setup

This submenu allows you to configure the power management features.

PnP/PCI Configurations

This submenu allows you to configure certain “Plug and Play” and PCI options.

PC Health Status

This submenu allows you to monitor the hardware of your system.

Frequency/ Voltage Control

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock. **(However, this function is strongly recommended not to use. Not properly change the voltage and clock may cause CPU or M/B damage!)**

Load Optimized Defaults

This selection allows you to reload the BIOS when the system is having problems particularly with the boot sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.



Load Optimized Defaults (Y/N)? **N**

Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.



Enter Password:

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Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

Enter Password:

Save & Exit Setup

Save all configuration changes to CMOS(memory) and exit setup. Confirmation message will be displayed before proceeding

SAVE to CMOS and EXIT (Y/N)? Y

Exit Without Saving

Abandon all changes made during the current session and exit setup. confirmation message will be displayed before proceeding

Quit Without Saving (Y/N)? N

Upgrade BIOS

This submenu allows you to upgrade bios.

BIOS UPDATE UTILITY (Y/N)? N

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2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

■ Figure 2. Standard CMOS Setup

Phoenix - AwardBIOS CMOS Setup Utility		
Standard CMOS Features		
Date (mm:dd:yy)	Wed, Mar 19 2003	Item Help
Time (hh:mm:ss)	16 : 47 : 8	
▶ IDE Primary Master		Menu Level ▶ Change the day, month, year and century
▶ IDE Primary Slave		
▶ IDE Secondary Master		
▶ IDE Secondary Slave		
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All , But Keyboard]	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	
↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F7: Optimized Defaults		

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Main Menu Selections

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

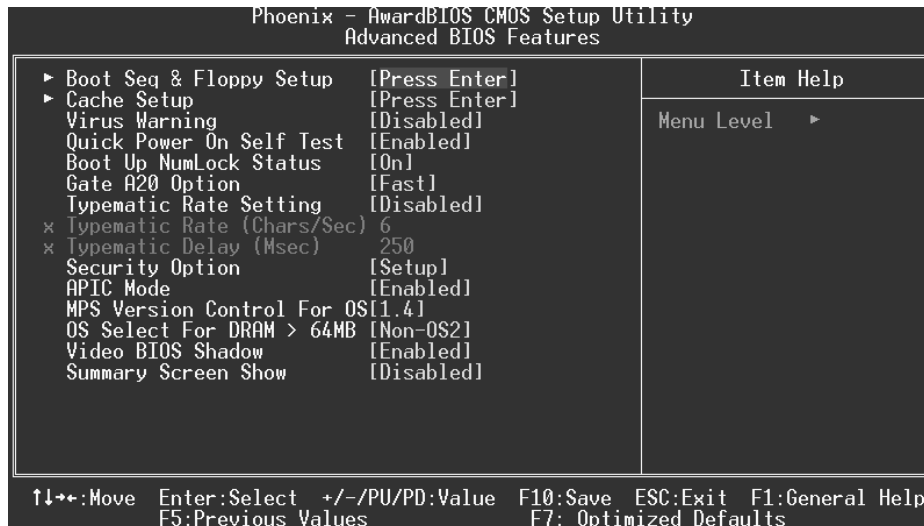
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Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

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3 Advanced BIOS Features

■ Figure 3. Advanced BIOS Setup



Boot Seq & Floppy Setup

First/ Second/ Third/ Boot Other Device

These BIOS attempt to load the operating system from the device in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, HPT370, Disabled, Enabled.

Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

The Choices: Disabled (default), Enabled.

Boot Up Floppy Seek

Enabling this option will test the floppy drives to determine if they have 40 or 80 tracks. Disabling this option reduces the time it takes to boot-up.

The Choices: Disabled, Enabled (default).

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Cache Setup

CPU Internal Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

The Choices:

Enabled (default)	Enable cache.
Disabled	Disable cache.

External Cache

This option you to enable or disable "Level 2" secondary cache on the CPU, which may improve performance.

The Choices:

Enabled (default)	Enable cache.
Disabled	Disable cache.

Virus Warning

This option allows you to choose the Virus Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Disabled (default)	Virus protection is disabled.
Enabled	Virus protection is activated.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

Enabled (default)	Enable quick POST.
Disabled	Normal POST.

Boot Up NumLock Status

Selects the NumLock. State after power on.

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls Gate A20.
Fast (default)	Lets chipset control Gate A20.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

The Choices: Disabled (default), Enabled.

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Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

The Choices: 6 (default), 8,10,12,15,20,24,30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The Choices: 250 (default), 500,750,1000.

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

System

A password is required for the system to boot and is also required to access the Setup Utility.

Setup (default)

A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

APIC Mode

By selecting Enabled enables ACPI device mode reporting from the BIOS to the operating system.

The Choices: Enabled (default), Disabled.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.

Select version supported by the operation system running on this computer.

The Choices: 1.4 (default), 1.1.

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (default), OS2.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

The Choices:

Enabled (default)

Optional ROM is enabled.

Disabled

Optional ROM is disabled.

Summary Screen Show

This item allows you to enable/ disable display the Summary Screen Show.

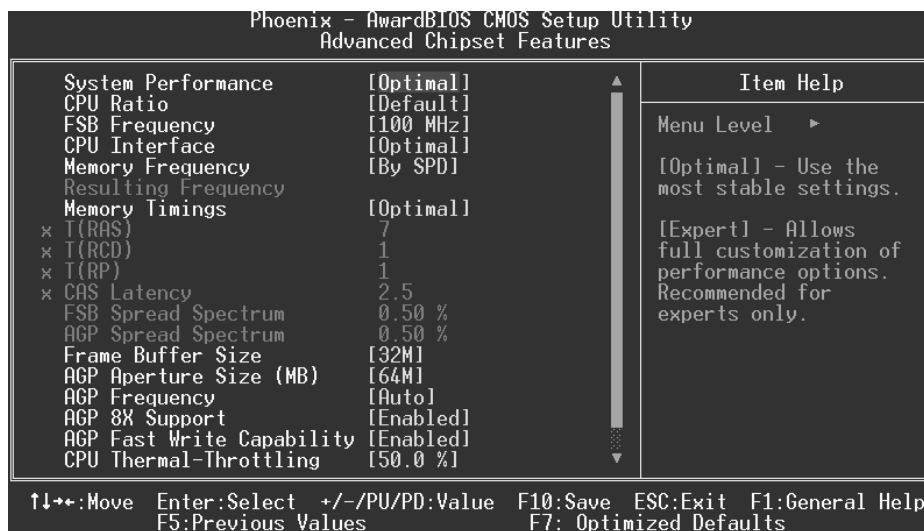
The Choices: Disabled (default), Enabled.

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4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

■ Figure 4. Advanced Chipset Setup



System Performance

Optimal (Default)

This item allows you to use the most stable settings.

Expert

This item allows full customization of performance.

Aggressive

This item allows you to use the overclocked settings for higher performance but with higher risk of instability.

Turbo

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FSB Frequency

This item allows you to select the FSB Frequency.

The Choices: 100MHz (Default), 133MHz, 166MHz, 200MHz.

CPU Interface

Optimal (Default)

This item allows you to use the most stable CPU/FSB parameters.

Aggressive

This item allows you to use overclocked CPU/FSB parameters.

Turbo

Memory Frequency

Select "Auto" for best performance.

The Choices: By SPD (Default), 50%, 60%, 66%, 75%, 80%, 83%, 100%, 120%, 125%, 133%, 150%, 166%, 200%, Auto.

Memory Timings

Optimal (Default)

This item allows you to use the most stable settings.

Expert

This item allows you to enter timings manually.

Turbo

T(RAS)

This item allows you to set System Performance to "Optimal" to use the delay recommended by the DIMM's manufacturer.

The Choices: 7 (Default), 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15.

T(RCD)

This item allows you to set System Performance to "Optimal" to use the delay recommended by the DIMM's manufacturer.

The Choices: 1 (Default), 2, 3, 4, 5, 6, 7.

T (RP)

This item allows you to set System Performance to "Optimal" to use the delay recommended by the DIMM's manufacturer.

The Choices: 1 (Default), 2, 3, 4, 5, 6, 7.

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CAS Latency

This item allows you to set System Performance to “Optimal” to use the delay recommended by the DIMM’s manufacturer.

The Choices: 2.5 (Default), 2.0, 3.0.

FSB Spread Spectrum

This item allows you to select the FSB Spread Spectrum.

The Choices: 0.50% (Default).

AGP Spread Spectrum

This item allows you to select the AGP Spread Spectrum.

The Choices: Disabled (Default).

Frame Buffer Size

This item allows you to select the Frame Buffer Size.

The Choices: 32M (Default), 8M, 16M, 64M, 128M, Disabled.

AGP Aperture Size (MB)

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

The Choices: 64 (default), 4, 8, 16, 32, 128, 256.

AGP Frequency

This item allows you to select the AGP Frequency.

The Choices: Auto (Default), 50MHz, 66MHz, 67MHz, 68MHz, 69MHz, 70MHz, 71MHz, 72MHz, 73MHz, 74MHz, 75MHz, 76MHz, 77MHz, 78MHz, 79MHz, 80MHz, 81MHz, 82MHz, 83MHz, 84MHz, 85MHz, 86MHz, 87MHz, 90MHz, 93MHz, 95MHz, 97MHz, 100MHz.

AGP 8X Support

This item allows you to enable or disable AGP 8X Support.

The Choices: Enabled (Default), Disabled.

AGP Fast Write Capability

This item allows you Enabled or Disabled AGP Fast Write Capability.

The Choices: Enabled (Default), Disabled.

CPU Thermal Throttling

This item allows you to select the CPU Thermal Throttling.

The Choices: 50% (Default), Disabled, 87.5%, 75%, 62.5%, 37.5%, 25%.

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12.5%.

System BIOS Cacheable

Selecting Enabled allows you caching of the system BIOS ROM at F0000h~FFFFFh, resulting a better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Enabled, **Disabled** (default).

Video RAM Cacheable

Enabling this option allows caching of the video RAM, resulting a better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: **Disabled** (default), Enabled.

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5 Integrated Peripherals

■ Figure 5. Integrated Peripherals



IDE Function Setup

The chipset contains a PCI IDE interface with support for two IDE channels. Select “Enabled” to activate the first and / or second IDE interface. If you install a primary and / or secondary add-in IDE interface, select “Disabled” to deactivate an interface. If you highlight the literal “Press Enter” next to the “Onchip IDE Control” label and then press the enter key, it will take you a submenu with the following options:

OnChip IDE Channel 0/1

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select “Enabled” to activate the first and/or second IDE interface. Select “Disabled” to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

The Choices: Enabled (default), Disabled.

Primary / Secondary Master / Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 through 4 provides successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

IDE Primary / Secondary Master / Slave UDMA

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Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.

The Choices: Auto (default), Disabled.

IDE Prefetch Mode

The “onboard” IDE drive interfaces supports IDE prefetching for faster drive access. If the interface does not support prefetching. If you install a primary and/or secondary add-in IDE interface, set this option to “Disabled”.

The Choices: Enabled (default), Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.

The Choices: Enabled (default), Disabled.

Onboard Device

AC97 Audio

This item allows you to decide to enable/ disable to support AC97 Audio.

The Choices: Auto (default), Disabled.

AC97 Modem

This item allows you to decide to enable/ disable to support AC97 Modem.

The Choices: Auto (default), Disabled.

MAC LAN (nVIDIA)

This item allows you to select MAC LAN.

The Choices: Auto (Default), Disabled.

Machine MAC (NV) Address

This item allows you to enable or disable Machine MAC Address.

The Choices: Disabled (Default), Enabled.

MAC (NV) Address Input

Onchip 1394 Chip

This item allows you to set the Onchip 1394 Chip.

The Choices: Auto (Default), Disabled.

Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

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The Choices: Onboard/AGP, **PCI Solt** (default).

OnChip USB

This item allows you to set the onchip USB.

The Choices: **V1.1+V2.0** (default), Disabled, V1.1.

USB Device Legacy Support

This item allows you to enable or disable USB devices.

Enabled (default)

Enable USB Keyboard Support.

Disabled

Disable USB Keyboard Support.

Serial ATA

This item allows you to enable or disable Serial ATA function.

The Choices: **Enabled** (Default), Disabled.

Onboard I/O Chip Setup

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If install and FDC or the system has no floppy drive, select Disabled in this field.

The Choices: **Enabled** (default), Disabled.

Onboard Serial Port 1

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: **3F8/IRQ4** (default), Disabled, Auto, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

Onboard Serial Port2

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: Disabled, 3F8/IRQ4, **2F8/IRQ3** (default), 3E8/IRQ4, 2E8/IRQ3, Auto.

UART Mode Select

This item allows you to determine which Infra Red (IR) function of onboard I/O chip.

The Choices: Normal, ASKIR, **IrDA** (default).

RxD, TxD Active

This item allows you to determine which Infrared (IR) function of onboard I/O chip.

The Choices: **Hi / Lo** (default), Hi / Hi, Lo / Hi, Lo / Lo.

IR Transmission Delay

This item allows you to enable/disable IR transmission delay.

The Choices: **Enabled** (default), Disabled.

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UR2 Duplex Mode

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.

The Choices: Half (default), Full.

Use IR Pins

Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals.

The Choices: IR-Rx2Tx2 (default), Rx2D2, Tx2D2.

Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O address.

The Choices: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

The default value is SPP.

SPP (default)	Using Parallel port as Standard Printer Port.
EPP	Using Parallel port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port
ECP+EPP	Using Parallel port as ECP & EPP mode.

EPP Mode Select

Select EPP port type 1.7 or 1.9.

The Choices: EPP 1.7(default), EPP1.9.

ECP Mode Use DMA

Select a DMA Channel for the port.

The Choices: 3 (default), 1.

Game Port Address

Game Port I/O Address.

The Choices: 201 (default), 209, Disabled.

Midi Port Address

Midi Port Base I/O Address.

The Choices: 330 (default), 300, 290, Disabled.

Midi Port IRQ

This determines the IRQ in which the Midi Port can use.

The Choices: 10 (default), 5

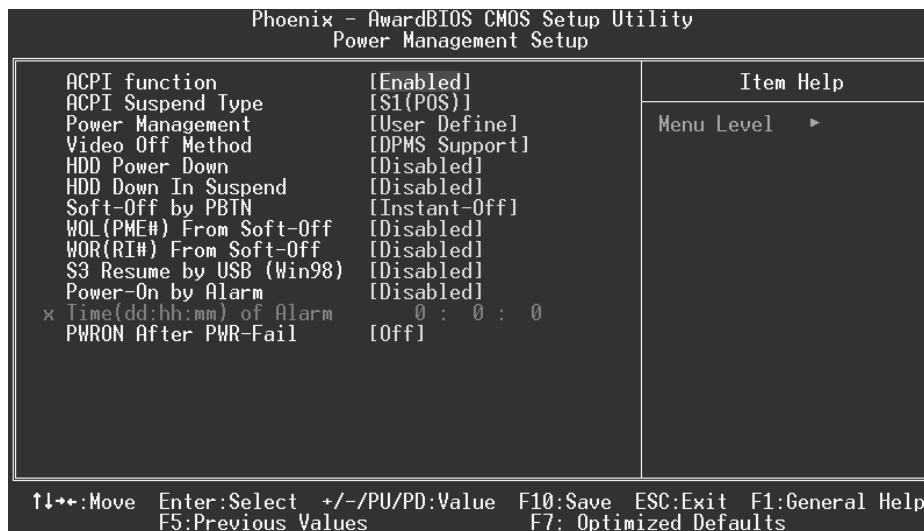
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6 Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

■ **Figure 6. Power Management Setup**



ACPI function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled (default), Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

The Choices: S1 (POS) (default) Power on Suspend
S3 (STR) Suspend to RAM
S1 & S3 POS+STR

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

- 1.HDD Power Down.
- 2.Suspend Mode.

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There are four options of Power Management, three of which have fixed mode settings

Min. Power Saving

Minimum power management.

Suspend Mode = 1 hr.

HDD Power Down = 15 min

Max. Power Saving

Maximum power management only available for sl CPU's.

Suspend Mode = 1 min.

HDD Power Down = 1 min.

User Defined (default)

Allows you to set each mode individually.

When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

Video Off Method

This option determines the manner in which the monitor is goes blank.

V/H SYNC+Blank

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS Support (default)

Initial display power management signaling

HDD Power Down

When enabled, the hard disk drive will power down and after a set time of system inactivity. All other devices remain active.

The Choices: Disabled (default), 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15Min.

HDD Down In Suspend

This item allows you to enable or disable HDD Down In Suspend.

The Choices: Disabled (Default), Enabled.

Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the

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Soft-Off state when the system has “hung.”

The Choices: Delay 4 Sec, **Instant-Off** (default).

WOL (PME#) From Soft-Off

This item allows you to enable or disable the WOL (PME#) From Soft-Off

The Choices: **Disabled** (Default), Enabled.

WOR (RI#) From Soft-Off

This item allows you to enable or disable the WOR (RI#) From Soft-Off.

The Choices: **Disabled** (Default), Enabled.

S3 Resume by USB (Win98)

This item allows you to enable or disable S3 Resume by USB (Win98).

The Choices: **Disabled** (Default), Enabled.

Power-On by Alarm

This item allows you to enable or disabled power on by alarm.

The Choices: **Disabled** (Default), Enabled.

PWRON After PWR-Fail

This field determines the action the system will automatically take when power is restored to a system that had lost power previously without any subsequent manual intervention. There are 3 sources that provide current to the CMOS area that retains these Power-On instructions; the motherboard battery (3V), the Power Supply (5VSB), and the Power Supply (3.3V). While AC is not supplying power, the motherboard uses the motherboard battery (3V). If AC power is supplied and the Power Supply is not turned on, 5VSB from the Power Supply is used. When the Power Supply is eventually turned on 3.3V from the Power Supply will be used.

There are 3 options: “Former-Sts”, “On”, “Off”.

“Former-Sts”	Means to maintain the last status of the CMOS when AC power is lost.
“On”	Means always set CMOS to the “On” status when AC power is lost
“Off” (default)	Means always set CMOS to the “Off” status when AC power is lost.

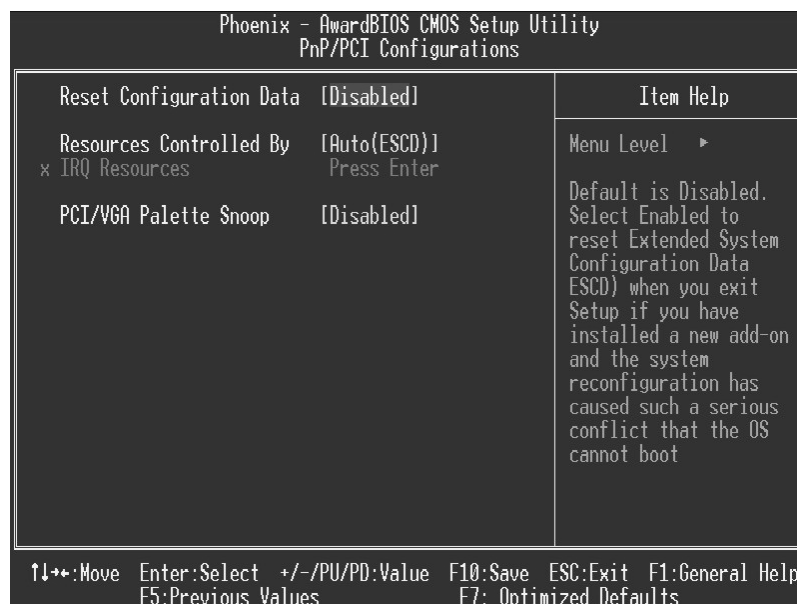
For example: If set to “Former-Sts” and AC power is lost when system is live, then after AC power is restored, the system will automatically power on. If AC power is lost when system is not live, system will remain powered off.

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7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

■ **Figure 7. PnP/PCI Configurations**



Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides

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non-PnP ISA add-on cards. PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (default), Enabled.

Resources Controlled By

By Choosing “**Auto(ESCD)**” (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing “Manual”, the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the “Press Enter” tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when “Resources Controlled By” is set to “Manual”.

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

PCI / VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

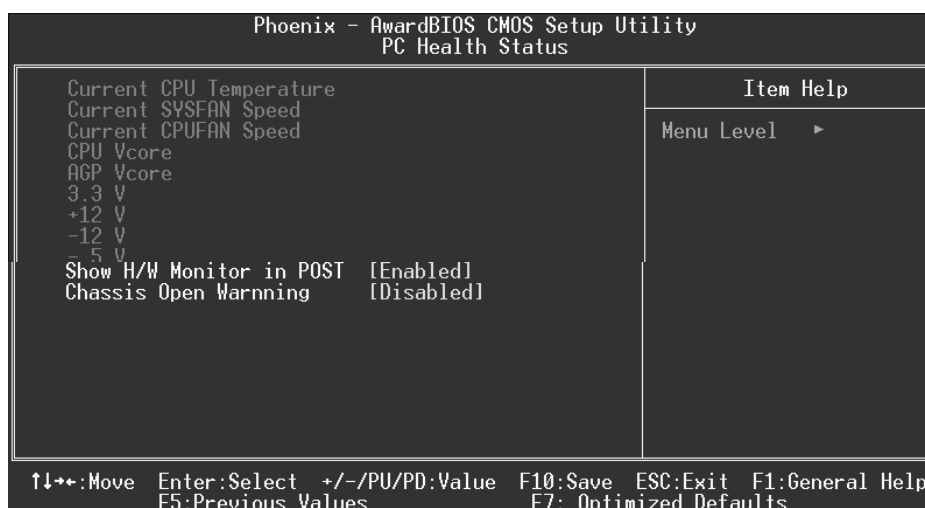
In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

Disabled (default)	Disables the function.
Enabled	Enables the function.

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8 PC Health Status

■ Figure 8. PC Health Status



Current CPU Temperature

Show you the current CPU temperature.

Current SYSFAN Speed

This field displays the current SYSFAN speed.

Current CPUFAN Speed

This field displays the current CPUFAN speed.

CPU Vcore/ AGP Vcore/ +3.3V/ +12V/ -12V/ -5V

Detect the system's voltage status automatically.

Show H/W Monitor in POST

If you computer contain a monitoring system, it will show PC health status during POST stage. The item offers several delay time to select you want.

The Choices: Enabled (default), Disabled.

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Chassis Open Warning

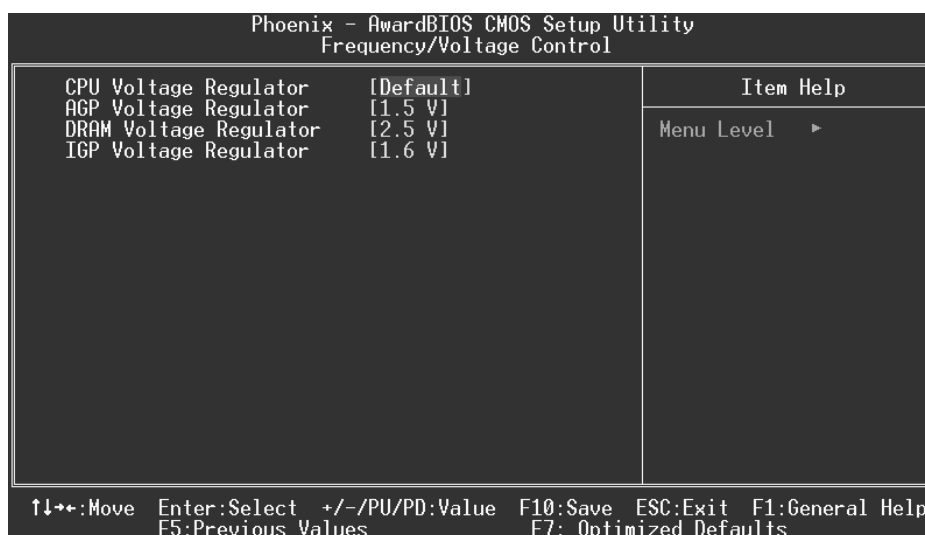
This item allows you to enable or disable Chassis Open Warning beep.

The Choices: Disabled (Default), Enabled.

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9 Frequency Control

■ Figure 9. Frequency Control



CPU Voltage Regulator

This item allows you to select CPU Voltage Regulator.

The Choices: **Default** (default), -0.025V, -0.050V, -0.075V, -0.100V, +0.025V, +0.050V, +0.075V.

AGP Voltage Regulator

This item allows you to select AGP Voltage Regulator.

The Choices: **1.5V** (Default), 1.6V, 1.7V, 1.8V.

DRAM Voltage Regulator

This item allows you to select DRAM Voltage Regulator.

The Choices: **2.5V** (Default), 2.6V, 2.7V, 2.8V.

IGP Voltage Regulator

This item allows you to select IGP Voltage Regulator.

The Choices: **1.6V** (Default), 1.7V, 1.8V, 1.9V.